

ABSTRACT

Software Defined Network is an architecture that can develop, with a significant network development, SDN will make network architecture much easier. SDN also provides a separation system for controlling data flow from hardware. SDN provides flexibility to the network so that it can control the network without having to touch the hardware.

At SDN network control is centered on the controller programmed to be able to manage the process of running the data to the center and sending it to the client. To run the process SDN requires an interface called a controller. The controllers commonly used are OpenFlow controllers (NOX, POX, Ryu, Beacon, Opendaylight, MuL). In the OpenFlow controller there are many different programming languages such as python, C, C +, C ++, java, PHP, and many more. Each controller has advantages, disadvantages and different uses.

In this final project research, the analysis that will be carried out is comparing the QoS (Quality of Service) network that will be built using POX controllers, Ryu controllers, and Opendaylight controllers. Of the two controllers will be tested on the tree topology with the number of switches 7, 9, and 11. And 6 of the 7 switches have 2 hosts, 8 of the 9 switches have 2 hosts, and 10 of the 11 switches have 2 hosts. One switch from each topology will be the center that is connected to all switches and controllers. The QoS value obtained from this analysis is still standardized by ITU-T.

Keywords: *Software Defined Network, POX, Ryu, Opendaylight, Mininet, OpenFlow.*